



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/779,424

02/08/2001

Paras A. Shah

COMP:0187/FLE  
(P00-3008)

5601

7590

09/19/2005

INTELLECTUAL PROPERTY ADMINISTRATION  
LEGAL DEPARTMENT, M/S 35  
P.O. BOX 272400  
FT. COLLINS, CO 80527

EXAMINER

KNOLL, CLIFFORD H

ART UNIT

PAPER NUMBER

2112

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/779,424

Applicant(s)

SHAH, PARAS A.

Examiner

Clifford H. Knoll

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-21 is/are allowed.
- 6) ☒ Claim(s) 1-15, 22, 24-26, and 28-29 is/are rejected.
- 7) ☒ Claim(s) 23, 27 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

This Office Action is responsive to communication filed 7/5/05. Currently claims 1-30 are pending.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 102***

1. *Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by MacLaren (US 6108741):*

Regarding claims 1, 6, 9, and 12, discloses temporarily storing a plurality of transaction entries (e.g., col. 28, lines 34-37), selecting one of the plurality of temporarily stored transaction entries and enqueueing the selected one of the plurality of temporarily stored transaction entries (e.g., col. 29, lines 64-66).

Regarding claims 2, 7, 10, and 13, MacLaren also discloses wherein (a) temporarily stores a plurality of transaction entries in a bank of registers (e.g., col. 28, lines 34-37).

Regarding claim 3, MacLaren also discloses wherein the plurality of transaction entries is temporarily stored simultaneously (e.g., col. 14, lines 22-23).

Regarding claims 4, 8, 11, and 14 MacLaren also discloses determining whether a posted write transaction entry is present; if the posted write transaction entry is present, then enqueueing the posted write transaction entry into the transaction order

Art Unit: 2112

queue (e.g., col. 26, lines 60-63), if the posted write transaction entry is not present, then determining whether a read completion transaction entry is present; if the read completion transaction entry is present, then enqueueing the read completion transaction entry into the transaction order queue (e.g., col. 29, lines 17-26, though not represented in MacLaren's "TRQ" they are nonetheless enqueueued as claimed); if the read completion transaction entry is not present, then determining whether a delayed/split transaction entry is present; and if the delayed/split transaction entry is present, then enqueueing delayed/split transaction entry into the transaction order queue (e.g., col. 29, lines 13-15).

Regarding claims 5 and 15, MacLaren also discloses enqueueing each of the plurality of transaction entries into the transaction order queue one at a time during successive clock cycles (e.g., col. 30, lines 30-37).

2. *Claims 22, 24-26, and 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Olarig (US 6175889).*

Regarding claim 22, Olarig discloses one processor and a memory device operatively coupled to the at least one processor; and a transaction order queue circuit configured to process transactions from the memory device (e.g., col. 11, lines 50-51), the transaction order queue circuit being adapted to encode a plurality of simultaneously received transaction entries (e.g., col. 17, lines 55-58) in an order according to the associated priority (and programmed to prioritize (col. 23, lines 4-20)).

Regarding claim 24, Olarig also discloses wherein the computer system comprises network capabilities (e.g., col. 14, lines 3-5).

Regarding claim 25, Olarig discloses temporarily storing a plurality of simultaneous transaction entries (e.g., col. 17, lines 55-58); and delivering the plurality of transaction entries to a transaction order queue one at a time (e.g., col. 17, line 67 – col. 18, line 3, “420”) in an order according to an associated priority (e.g., col. 21, lines 36-39).

Regarding claim 26, Olarig also discloses the plurality of simultaneous transaction entries is stored in a bank of registers (e.g., col. 17, lines 55-58).

Regarding claim 28, Olarig discloses temporarily storing a plurality of simultaneous transaction entries (e.g., col. 17, lines 55-58); and delivering the plurality of transaction entries to a transaction order queue one at a time (e.g., col. 17, line 67 – col. 18, line 3, “420”).

Regarding claim 29, Olarig also discloses the plurality of simultaneous transaction entries is stored in a bank of registers (e.g., col. 17, lines 55-58).

***Allowable Subject Matter***

3. Claims 16-21 are allowed.
4. *Claims 23, 27, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.*

### ***Response to Arguments***

Applicant's arguments filed 7/5/05, with respect to the 102 rejection over Olarig have been fully considered and are persuasive. The rejection of claims 16-19 and 21 has been withdrawn.

Applicant's arguments filed 7/5/05 with respect to the rejection over MacLaren, and with respect to the rejection over Olarig of claims 22, 24-26, and 28-29 have been fully considered but they are not persuasive.

Applicant argues that "TRQ 2270 and TOQ 2272 disclosed in MacLaren cannot be fairly correlated with the features recited in the present claims. For instance, transactions in the TRQ 2270 are completed 'in the order they were received' Col. 26, lines 63-65" (p. 13); however, although the transactions in the TRQ 2270 "are *generally* completed in the order they were received" (col. 26, lines 63-65); this is not always the case: "A circular output pointer 2294 arbitrates between the transactions in the TRQ 2270 and determines their order of execution" (col. 27, lines 35-37) and later, "[w]hen a delayed request transaction or posted memory write transaction is popped out of the TOQ 2272, the transaction is placed in the TRQ 2270 to await arbitration" (col. 29, lines 13-15), from which it can be determined that the TRQ 2270 enqueues "according to an associated priority" as recited.

Applicant further argues that "transactions are sent to the TRQ 2270, where they are processed in the order in which they are received", which as noted *supra* neglects

Art Unit: 2112

the actual interpretation which is that they are *generally* processed in order; however, as cited *supra*, an arbitrator determines an “associated priority”.

Applicant further argues that “entries are never stored in the TRQ 2270, prioritized and then moved from the TRQ 2270 to the TOQ 2272” (p. 15); however while this is correct, the order of movement is from the TOQ to the TRQ as cited *supra*.

Thus the rejection over MacLaren is maintained.

Regarding claims 22, 25, and 28, Applicant argues that Olarig does not disclose storing “in an order according to the associated priority” (p. 17); however, Olarig indeed teaches this feature (newly amended in claims 22 and 25: “The transaction queue controller 434 determines whether a PCI-X device transaction requires ‘strong’ or ‘weak’ ordering by comparing the current and pending transaction addresses in the queues 402, 404” and “the transaction queue controller 434 instructs the PCI-X target flow controller 430 to advance transactions in accordance with the aforementioned PCI-X Specification ordering rules (‘strong’ ordering)” (col. 23, lines 4-20).

Thus the rejection of claims 22, 24-26, and 28-29 over Olarig is maintained.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2112


mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifford H. Knoll whose telephone number is 571-272-3636. The examiner can normally be reached on M-F 0630-1500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

chk

  
REHANA PERVEEN  
PRIMARY EXAMINER  
9/16/05